

Claims

1. Polyaddition compounds containing uretdione groups, obtainable by reacting
5 uretdione polyisocyanates formed from diisocyanates having exclusively secondary-
and/or tertiary-attached isocyanate groups with a molar fraction of isocyanurate
structures, based on the sum of uretdione groups and isocyanurate groups, of not
more than 10%, with compounds reactive towards isocyanates.
- 10 2. Process for preparing polyaddition compounds according to Claim 1, in
which
- 15 A) uretdione polyisocyanates formed by diisocyanates having exclusively secon-
dary- and/or tertiary-attached isocyanate groups, with a molar fraction of iso-
cyanurate structures, based on the sum of uretdione groups and isocyanurate
groups, of not more than 10%, together where appropriate with the use of
- 20 B) further diisocyanates and/or polyisocyanates in an amount of up to 70% by
weight, based on the total weight of components A) and B), are reacted with
- C) polyols of the molecular weight range from 62 to 2 000 and optionally
- 25 D) further isocyanate-reactive monofunctional compounds in an amount of up to
40% by weight, based on the total weight of components C) and D),
- while observing an equivalents ratio of isocyanate groups to isocyanate-reactive
groups of from 1.8:1 to 0.6:1.

3. Use of polyaddition compounds according to Claim 1 as starting components in the preparation of polyurethane plastics.

5 4. Use of polyaddition compounds according to Claim 1 as starting components in the preparation of mouldings and shaped parts.

10 5. Use of polyaddition compounds according to Claim 1 as starting components in the preparation of coating materials and coatings.

15 6. Polyurethane plastics obtainable by reacting the polyaddition compounds according to Claim 1 with compounds containing isocyanate-reactive groups.

7. Powder coating formulations comprising polyaddition compounds according to Claim 1.

20 8. Method of coating substrates, characterized in that a substrate is first coated with a powder coating formulation according to Claim 6 and is then subjected to a heat treatment and/or to treatment with actinic light, in the course of which a coherent coating film forms on the substrate from the powder coating formulation.